REMARKS

§ 112 Rejections

In the Office Action mailed January 3, 2003, the Examiner objected to Claims 10-35 because of the misspelling the aluminum symbol (Al). Applicants respectfully submit that the appropriate spelling corrections have been made, and respectfully request that the Examiner withdraw the objection.

In the Office Action, the Examiner rejected Claims 10-35 under 35 U.S.C. § 112, second paragraph, as being indefinite. To the extent the rejection applied to the amended claims, Applicants respectfully traverse the rejection. Applicants respectfully submit that the appropriate corrections have been made to the claims, and respectfully request that the Examiner withdraw the rejection.

§ 102 & 103 rejections

In the Office Action, the Examiner rejected Claims 1, 5, 8, & 9 under 35 U.S.C. § 102(e), as being anticipated by Omaru et al (U.S. Patent Number 6,146,790)(Omaru). Applicants respectfully traverse the rejection.

Applicants respectfully submit that Claims 1, 5, 8, & 9 recite at least the limitations of a positive active material and an additive, where the additive is a metal, a semi-metal, or an additive thereof. That is, in the present claims, the additive is further added to the general positive active material composition as a physical mixture, not as a combined compound. Applicants respectfully submit that Omaru fails to teach or suggest the desirability of an additive as discussed above.

Applicants respectfully request that the Examiner withdraw the rejection to Claims 1, 5, 8, & 9 as being anticipated by Omaru.

In the Office Action, the Examiner rejected Claims 1 and 3 under 35 U.S.C. § 102(b), as being anticipated by Miyasaka (U.S. Patent Number 5,869,208)(Miyasaka). Applicants respectfully traverse the rejection.

Applicants respectfully submit that Claims 1 and 3 recite at least the limitations of a positive active material and an additive, where the additive is a metal, a semi-metal, or an additive thereof. That is, in the present claims, the additive is further added to the general positive active material composition as a physical mixture, not as a combined compound.

Applicants respectfully submit that Miyasaka fails to teach or suggest the desirability of an additive as discussed above. The Examiner stated in the Office Action mailed January 3, 2003 that Miyasaka includes a "carbonaceous metal such as graphite or acetylene black." Applicants respectfully submit that neither graphite or acetylene black are metals. Graphite is the crystalline form of carbon, and Hawley's Chemical Dictionary describes carbon as "non-metallic." In addition, Hawley's defines acetylene black as carbon black from the incomplete combustion of acetylene. Applicants respectfully submit that carbon black is not a metal.

Applicants respectfully request that the Examiner withdraw the rejection to Claims 1 and 3 as being anticipated by Miyasaka.

In the Office Action, the Examiner rejected Claims 1-4 and 36 under 35 U.S.C. § 103(a), as being unpatentable over Ikawa et al (U.S. Patent Number 5,922,491)(Ikawa) in view of Lu et al (U.S. Patent Number 6,348,182)(Lu) Applicants respectfully traverse the rejection.

Applicants respectfully submit that Claims 1-4 and 36 recite at least the limitations of a positive active material, an additive, and an organic solvent, where the additive is a metal, a semi-metal, or an additive thereof. That is, in the present claims, the additive is further added to the general positive active material composition as a physical mixture, not as a combined compound. Applicants respectfully submit that Ikawa fails to teach or suggest the desirability of an additive as discussed above. In addition, Applicants respectfully submit that there is no motivation or suggestion to combine the organic solvent of Lu with the remaining battery components of Ikawa.

Applicants respectfully request that the Examiner withdraw the rejection to Claims 1-4 and 36.

In the Office Action, the Examiner rejected Claims 5-7 under 35 U.S.C. § 103(a), as being unpatentable over Ikawa et al (U.S. Patent Number 5,922,491)(Ikawa) in view of Lu et al (U.S. Patent Number 6,348,182)(Lu) Applicants respectfully traverse the rejection.

Applicants respectfully submit that Claims 5-7 recite at least the limitations of a positive active material, an additive, and an organic solvent, where the additive is a metal, a semi-metal, or an additive thereof. That is, in the present claims, the additive is further added to the general positive active material composition as a physical mixture, not as a combined compound. Applicants respectfully submit that Ikawa fails to teach or suggest the desirability of an additive as discussed above. In addition, Applicants respectfully submit that there is no motivation or

suggestion to combine the organic solvent of Lu with the remaining battery components of Ikawa.

Applicants respectfully request that the Examiner withdraw the rejection to Claims 5-7.

In the Office Attached hereto is a marked-up version of the changes made to the claims by the current Amendment. The attachment is captioned, "VERSION WITH MARKINGS TO SHOW CHANGES MADE."

CONCLUSION

In view of the forgoing, it is believed that all claims now pending are in proper form and are neither obvious nor anticipated by the relied-upon art of record and are in condition for allowance. A Notice of Allowance is earnestly solicited at the earliest possible date.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: April 3, 2003

By: _____
William E. Hickman; Reg. No. 46,771

12400 Wilshire Blvd.
Seventh Floor
Los Angeles, California 90025
(310) 207-3800

CERTIFICATE OF MAILING:

I hereby certify that this correspondence is being deposited as First Class Mail with the United States Postal Service in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on April 3, 2003.

_____ 4/3/03
William E. Hickman *Date*

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

The claims are amended as follows.

10. (Amended) The positive active material composition of claim 1 wherein the lithiated transition metal compound is a compound represented by formula:

Li_xMnA_2

where $1.0 \leq x \leq 1.1$, ~~$0.01 \leq y \leq 0.1$, $0.01 \leq z \leq 0.5$, M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~and A is selected from O, F, S or P~~, and B is Ni or Co~~.

11. (Amended) The positive active material composition of claim 1 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xMnO_{2-z}A_z$

where $1.0 \leq x \leq 1.1$, ~~$0.01 \leq y \leq 0.1$,~~ $0.01 \leq z \leq 0.5$, ~~M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~and A is selected from O, F, S or P~~, and B is Ni or Co~~.

12. (Amended) The positive active material composition of claim 1 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xMn_{1-y}M'_yA_2$

where $1.0 \leq x \leq 1.1$, $0.01 \leq y \leq 0.1$, ~~$0.01 \leq z \leq 0.5$,~~ M' is at least one transition metal or lanthanide metal selected from the group consisting of ~~Al~~Al, Cr, Co, Mg, La, Ce, Sr and V, ~~M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~and A is selected from O, F, S or P~~, and B is Ni or Co~~.

13. (Amended) The positive active material composition of claim 1 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xMn_2A_4$

where $1.0 \leq x \leq 1.1$, ~~$0.01 \leq y \leq 0.1$, $0.01 \leq z \leq 0.5$, M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~and A is selected from O, F, S or P~~, and B is Ni or Co~~.

14. (Amended) The positive active material composition of claim 1 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xMn_2O_{4-z}A_z$

where $1.0 \leq x \leq 1.1$, ~~$0.01 \leq y \leq 0.1$,~~ $0.01 \leq z \leq 0.5$, ~~M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~ and A is selected from O, F, S or P~~, and B is Ni or Co~~.

15. (Amended) The positive active material composition of claim 1 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xMn_{2-y}M'_yA_4$

where $1.0 \leq x \leq 1.1$, $0.01 \leq y \leq 0.1$, ~~$0.01 \leq z \leq 0.5$,~~ M' is at least one transition metal or lanthanide metal selected from the group consisting of ~~Al~~Al, Cr, Co, Mg, La, Ce, Sr and V, ~~M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~and A is selected from O, F, S or P~~, and B is Ni or Co~~.

16. (Amended) The positive active material composition of claim 1 wherein the lithiated transition metal compound is a compound represented by formula:

Li_xBA_2

where $1.0 \leq x \leq 1.1$, ~~$0.01 \leq y \leq 0.1$, $0.01 \leq z \leq 0.5$, M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~ A is selected from O, F, S or P, and B is Ni or Co.

17. (Amended) The positive active material composition of claim 1 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xBO_{2-z}A_z$

where $1.0 \leq x \leq 1.1$, ~~$0.01 \leq y \leq 0.1$,~~ $0.01 \leq z \leq 0.5$, ~~M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~ A is selected from O, F, S or P, and B is Ni or Co.

18. (Amended) The positive active material composition of claim 1 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xB_{1-y}M''_yA_2$

where $1.0 \leq x \leq 1.1$, $0.01 \leq y \leq 0.1$, ~~$0.01 \leq z \leq 0.5$, M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V,~~ M" is at least one transition metal or lanthanide metal selected from the group consisting of ~~Al~~Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V, and A is selected from O, F, S or P~~, and B is Ni or Co~~.

19. (Amended) The positive active material composition of claim 1 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xB_{1-y}M''_yO_{2-z}A_z$

where $1.0 \leq x \leq 1.1$, $0.01 \leq y \leq 0.1$, $0.01 \leq z \leq 0.5$, ~~M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V,~~ M" is at least one transition metal or lanthanide metal selected from the group consisting of ~~Al~~Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V, A is selected from O, F, S or P, and B is Ni or Co.

20. (Amended) The positive active material composition of claim 1 wherein the lithiated transition metal compound is a compound represented by formula:

Li_xNiCoA_2

where $1.0 \leq x \leq 1.1$, ~~$0.01 \leq y \leq 0.1$, $0.01 \leq z \leq 0.5$, M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~and A is selected from O, F, S or P~~, and B is Ni or Co~~.

21. (Amended) The positive active material composition of claim 1 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xNiCoO_{2-z}A_z$

where $1.0 \leq x \leq 1.1$, ~~$0.01 \leq y \leq 0.1$,~~ $0.01 \leq z \leq 0.5$, ~~M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~ and A is selected from O, F, S or P~~, and B is Ni or Co~~.

22. (Amended) The positive active material composition of claim 1 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xNi_{1-y-z}Co_yM"_zA_2$

where $1.0 \leq x \leq 1.1$, $0.01 \leq y \leq 0.1$, $0.01 \leq z \leq 0.5$, ~~M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V,~~ M" is at least one transition metal or lanthanide metal selected from the group consisting of ~~Al~~Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V, and A is selected from O, F, S or P~~, and B is Ni or Co~~.

23. (Amended) The method of claim 5 wherein the lithiated transition metal compound is a compound represented by formula:

Li_xMnA_2

where $1.0 \leq x \leq 1.1$, ~~$0.01 \leq y \leq 0.1$, $0.01 \leq z \leq 0.5$, M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~and A is selected from O, F, S or P~~, and B is Ni or Co~~.

24. (Amended) The method of claim 5 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xMnO_{2-z}A_z$

where $1.0 \leq x \leq 1.1$, ~~$0.01 \leq y \leq 0.1$,~~ $0.01 \leq z \leq 0.5$, ~~M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is~~

~~at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~and A is selected from O, F, S or P~~, and B is Ni or Co~~.

25. (Amended) The method of claim 5 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xMn_{1-y}M'_yA_2$

where $1.0 \leq x \leq 1.1$, $0.01 \leq y \leq 0.1$, $0.01 \leq z \leq 0.5$, M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of AIA1, Cr, Mn, Fe, Mg, La, Ce, Sr and V, and A is selected from O, F, S or P, and B is Ni or Co.

26. (Amended) The method of claim 5 wherein the lithiated transition metal compound is a compound represented by formula:

LixMn2A4

where $1.0 \leq x \leq 1.1$, $0.01 \leq y \leq 0.1$, $0.01 \leq z \leq 0.5$, M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,and A is selected from O, F, S or P, and B is Ni or Co.

27. (Amended) The method of claim 5 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xMn_2O_{4-z}A_z$

where $1.0 \leq x \leq 1.1$, ~~$0.01 \leq y \leq 0.1$,~~ $0.01 \leq z \leq 0.5$, ~~M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~and A is selected from O, F, S or P~~, and B is Ni or Co~~.

28. (Amended) The method of claim 5 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xMn_{2-y}M'_yA_4$

where $1.0 \leq x \leq 1.1$, $0.01 \leq y \leq 0.1$, ~~$0.01 \leq z \leq 0.5$,~~ ~~M'~~ is at least one transition metal or lanthanide metal selected from the group consisting of ~~Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al~~Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V, and A is selected from O, F, S or P~~, and B is Ni or Co~~.

29. (Amended) The method of claim ~~5~~ 1 wherein the lithiated transition metal compound is a compound represented by formula:

Li_xBA_2

where $1.0 \leq x \leq 1.1$, ~~$0.01 \leq y \leq 0.1$, $0.01 \leq z \leq 0.5$, M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~ A is selected from O, F, S or P, and B is Ni or Co.

30. (Amended) The method of claim 5 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xBO_{2-z}A_z$

where $1.0 \leq x \leq 1.1$, ~~$0.01 \leq y \leq 0.1$,~~ $0.01 \leq z \leq 0.5$, ~~M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~ A is selected from O, F, S or P, and B is Ni or Co.

31. (Amended) The method of claim 5 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xB_{1-y}M''_yA_2$

where $1.0 \leq x \leq 1.1$, $0.01 \leq y \leq 0.1$, ~~$0.01 \leq z \leq 0.5$, M' is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V,~~ M" is at least one transition metal or lanthanide metal selected from the group consisting of ~~Al~~Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V, A is selected from O, F, S or P, and B is Ni or Co.

32. (Amended) The method of claim 5 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xB_{1-y}M"_yO_{2-z}A_z$

where $1.0 \leq x \leq 1.1$, $0.01 \leq y \leq 0.1$, $0.01 \leq z \leq 0.5$, ~~M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V,~~ M" is at least one transition metal or lanthanide metal selected from the group consisting of ~~Al~~Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V, A is selected from O, F, S or P, and B is Ni or Co.

33. (Amended) The method of claim 5 wherein the lithiated transition metal compound is a compound represented by formula:

Li_xNiCoA_2

where $1.0 \leq x \leq 1.1$, ~~$0.01 \leq y \leq 0.1$, $0.01 \leq z \leq 0.5$, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~ and A is selected from O, F, S or P~~, and B is Ni or Co~~.

34. (Amended) The method of claim 5 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xNiCoO_{2-z}A_z$

where $1.0 \leq x \leq 1.1$, $0.01 \leq z \leq 0.5$, ~~M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V, M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V,~~ and A is selected from O, F, S or P~~, and B is Ni or Co~~.

35. (Amended) The method of claim 5 wherein the lithiated transition metal compound is a compound represented by formula:

$Li_xNi_{1-y-z}Co_yM"_zA_2$

where $1.0 \leq x \leq 1.1$, $0.01 \leq y \leq 0.1$, $0.01 \leq z \leq 0.5$, ~~M" is at least one transition metal or lanthanide metal selected from the group consisting of Al, Cr, Co, Mg, La, Ce, Sr and V,~~ M" is at least one transition metal or lanthanide metal selected from the group consisting of ~~Al~~Al, Cr, Mn, Fe, Mg, La, Ce, Sr and V, and A is selected from O, F, S or P~~, and B is Ni or Co~~.